

## CLAIMS

What is claimed is:

- 5        1. A method of processing communication packets comprising:
  - assigning a first communication packet to a first communication data structure which is unique to a first connection that comprises said first communication packet;
  - selecting a first event list from a database, said first event list selected based on a classification of said first communication packet, said first event list identifying a first plurality of communication modules specific for said first connection and an ordering thereof;
  - processing said first communication packet through said first plurality of communication modules based on said ordering; and
  - manipulating said first event list to enable a communication module of said first plurality of communication modules to enter one of a plurality of operational states associated with said communication module.
- 15        2. A method as described in Claim 1 wherein said manipulating said first event list enables said communication module to move through each of said plurality of operational states.
- 20        3. A method as described in Claim 2 wherein said plurality of operational states has an order.

4. A method as described in Claim 1 further comprising classifying said first communication packet to determine which communication modules are required for processing thereof, said classifying performed before said selecting.

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5. A method as described in Claim 1 wherein said first communication packet is an initial communication packet of a plurality of communication packets of said first connection.

10 6. A method as described in Claim 5 further comprising:  
accessing a second communication packet of said first connection;  
accessing said first communication data structure to identify said first event list associated with said first connection; and  
processing said second communication packet through said plurality of  
15 communication modules based on said ordering.

7. A method as described in Claim 6 wherein said communication modules comprise function call interfaces.

20 8. A method as described in Claim 6 wherein said communication packets are send or receive communication packets.

9. A method as described in Claim 1 wherein said first data structure comprises a first pointer to the first communication module of said first event list and a second pointer which points to the currently processed communication module during said processing of said first event list.

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10. A method as described in Claim 1 further comprising:  
assigning a third communication packet to a second communication data structure that is unique to a second connection that comprises said third communication packet;

10        selecting a second event list from said database, said second event list selected based on a classification of said third communication packet, said second event list identifying a second plurality of communication modules specific for said second connection and an ordering thereof, wherein said first plurality of communication modules is different from said second plurality of communication modules; and

15        processing said third communication packet through said second plurality of communication modules based on said ordering of said second event list; and  
manipulating said second event list to enable a communication module of said second plurality of communication modules to enter one of a plurality of operational states associated with said communication module.

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11. A method as described in Claim 10 wherein said third communication packet is an initial communication packet of a plurality of communication packets of said second connection.

12. A method as described in Claim 10 further comprising:

accessing said fourth communication packet associated with said second connection;

5 accessing said second communication data structure to identify said second event list associated with said second connection; and

processing said fourth communication packet through said second plurality of communication modules based on said ordering of said second event list.

10 13. A method as described in Claim 10 wherein said second data structure comprises a first pointer to the first communication module of said second event list and a second pointer which points to the currently processed communication module during said processing of said second event list.

15 14. A method as described in Claim 10 further comprising classifying said third communication packet to determine which communication modules are required for processing thereof, said classifying of said third communication packet performed before said selecting of said second event list.

20 15. A method as described in Claim 10 wherein said communication modules comprise function call interfaces.

16. A method of processing communication packets within a communication framework comprising a first plurality of modules, said method comprising:

assigning a first communication packet to a first communication data structure which is unique to a first connection that comprises said first communication packet;

5        selecting a first event list from a database, said first event list selected based on a classification of said first communication packet, said first event list identifying a second plurality of modules specific for said first connection and an ordering thereof, wherein said second plurality is a subset of said first plurality;

processing said first communication packet through said second plurality of

10    modules based on said ordering; and

changing said first event list to enable a module of said second plurality of modules to enter one of a plurality of operational states associated with said module.

17. A method as described in Claim 16 wherein said changing said first

15    event list enables said module to pass through each of said plurality of operational states.

18. A method as described in Claim 17 wherein said plurality of operational

states has an operational order.

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19. A method as described in Claim 16 further comprising classifying said first communication packet to determine which modules are required for processing thereof, said classifying performed before said selecting.

20. A method as described in Claim 16 wherein said first communication packet is an initial communication packet of a plurality of communication packets of said first connection and further comprising:

5           accessing a second communication packet of said first connection;  
          accessing said first communication data structure to identify said first event list associated with said first connection; and  
          processing said second communication packet through said second plurality of modules based on said ordering.

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21. A method as described in Claim 16 wherein said first data structure comprises a first pointer to the first module of said first event list and a second pointer which points to the currently processed module during said processing of said first event list.

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22. A method as described in Claim 16 further comprising:  
          assigning an third communication packet to a second communication data structure that is unique to a second connection that comprises said third communication packet;

20           selecting a second event list from said database, said second event list selected based on a classification of said third communication packet, said second event list identifying a third plurality of modules specific for said second connection and an

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ordering thereof, wherein said third plurality is a subset of said first plurality and wherein further said second plurality is different from said third plurality;

processing said third communication packet through said third plurality of modules based on said ordering of said second event list; and

5        manipulating said second event list to enable a module of said third plurality of modules to enter one of a plurality of operational states associated with said module.

23.    A method as described in Claim 22 wherein said third communication packet is an initial communication packet of a plurality of communication packets of  
10        said second connection and further comprising:

accessing a fourth communication packet associated with said second connection;

accessing said second communication data structure to identify said second event list associated with said second connection; and

15        processing said fourth communication packet through said third plurality of modules based on said ordering of said second event list.

24.    A method as described in Claim 22 wherein said second data structure comprises a first pointer to the first communication module of said second event list  
20        and a second pointer which points to the currently processed module during said processing of said second event list.

25. A method as described in Claim 22 further comprising classifying said third communication packet to determine which modules are required for processing thereof, said classifying of said third communication packet performed before said selecting of said second event list.

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26. A communication system comprising:

a) a first plurality of communication modules for processing communication packets;

b) a database comprising:

10 a first event list indicating a second plurality of communication modules for processing communication packets and an ordering thereof and wherein said second plurality is a subset of said first plurality, a communication module of said second plurality of communication modules for modifying said first event list; and

15 a second event list indicating a third plurality of communication modules for processing communication packets and an ordering thereof and wherein said third plurality is a subset of said first plurality and is different from said second plurality, a communication module of said third plurality of communication modules for modifying said second event list;

20 and

c) a classifier for classifying respective communication packets and based thereon for assigning respective communication packets to one of said first and

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second event lists for processing thereof and wherein communication packets of a common communication connection are processed through the same event list.

27. A communication system as described in Claim 26 wherein said  
5 communication module of said second plurality of communication modules for  
modifying said first event list to enter one of a plurality of operational states associated  
with said communication module of said second plurality of communication modules.

28. A communication system as described in Claim 27 wherein said  
10 communication module of said third plurality of communication modules for modifying  
said second event list to enter one of a plurality of operational states associated with  
said communication module of said third plurality of communication modules.

29. A communication system as described in Claim 27 wherein said  
15 communication module of said second plurality of communication modules for  
modifying said first event list to move through each of said plurality of operational  
states.

30. A communication system as described in Claim 29 wherein said plurality  
20 of operational states has an order.

31. A communication system as described in Claim 26 further comprising a  
plurality of data structures, each data structure associated with a respective

communication connection and indicating an event list to be used for processing communication packets of said respective communication connection.

32. A communication system as described in Claim 26 wherein said  
5 communication modules are function call modules.

33. A communication system as described in Claim 26 wherein said communication packets are send communication packets.

10 34. A communication system as described in Claim 26 wherein said communication packets are receive communication packets.